

Amendments to the Claims

The following list reflects amendments to the claims and replaces all prior versions and listings of claims in this application.

Claims 1 to 25 (Cancelled)

Claim 26 (Currently amended): A spray drying system for forming a pharmaceutical formulation, the system comprising:

an atomizer, the atomizer comprising a first channel ~~through which~~ for a liquid flow, wherein said first the channel comprising comprises a constriction having a diameter less than 0.51 mm (0.020 in) for spreading the liquid into a thin film in the channel, the atomizer further comprising a second channel ~~though which~~ for an atomizing gas flow, wherein said first channel is not contained within the channel of said second channel and said the second channel being-is positioned so that the atomizing gas impinges the liquid thin film to produce droplets;

a drying chamber to dry the droplets to form particles; and
a collector to collect the particles.

Claim 27 (Cancelled)

Claim 28 (Previously added): The system of claim 26, wherein the constriction has a diameter less than 0.1 mm (0.005 in).

Claim 29 (Currently amended): The system of claim 26, wherein the atomizer further comprising comprises a third channel for a gas flow.

Claim 30 (Previously added): The system of claim 26, wherein the first channel is annular.

Claim 31 (Previously added): The system of claim 26, wherein the drying chamber has a gas inlet stream having an inlet temperature of at least 90°C.

Claim 32 (Previously added): The system of claim 26, wherein the drying chamber has a gas outlet stream having an outlet temperature of at least 50°C.

Claim 33 (Currently amended): A spray drying system for forming a pharmaceutical formulation, the system comprising:

an atomizer, the atomizer comprising a first channel through which a pharmaceutical liquid flows, wherein said first the channel comprising comprises a constriction having a diameter less than 0.51 mm (0.020 in) for spreading the pharmaceutical liquid into a thin film in the channel, the atomizer further comprising a second channel through which an atomizing gas flows, wherein said

first channel is not contained within the channel of said second channel and said the second channel being is positioned so that the atomizing gas impinges the liquid thin film to produce droplets;

a drying chamber to dry the droplets to form particles; and

a collector to collect the particles.

Claim 34 (Cancelled)

Claim 35 (Previously added): The system of claim 33, wherein the constriction has a diameter less than 0.1 mm (0.005 in).

Claim 36 (Currently amended): The system of claim 33, wherein the atomizer further comprising comprises a third channel for a gas flow.

Claim 37 (Previously added): The system of claim 33, wherein the first channel is annular.

Claim 38 (Previously added): The system of claim 33, wherein the drying chamber has a gas inlet stream having an inlet temperature of at least 90°C.

Claim 39 (Previously added): The system of claim 33, wherein the drying chamber has a gas outlet stream having an outlet temperature of at least 50°C.

Claim 40 (Previously added): The system of claim 33, wherein the pharmaceutical liquid comprises an active agent and an excipient.

Claim 41 (Previously added): The system of claim 33, wherein the particles have a rugosity above 2.

Claim 42 (Previously added): The system of claim 33, wherein the particles have a density below 0.5 g/cm³.

Claim 43 (Previously amended): The system of claim 40, wherein said excipient has a glass transition temperature above 35°C.

Claim 44 (Previously added): The system of claim 33, wherein the particles have a mass median diameter less than 20 µm.

Claim 45 (Currently amended): A spray drying system for forming a pharmaceutical formulation, the system comprising:

an atomizer, the atomizer comprising a first annular channel for a liquid flow, wherein said first the-channel comprising comprises a constriction having a diameter less than 0.51 mm (0.020 in) for spreading the liquid into a thin film in the channel, the atomizer further comprising a second annular channel for an atomizing gas flow, wherein said first annular channel is not contained within the channel of said second annular channel and said the second annular channel being-is positioned so that the atomizing gas impinges the liquid thin film to produce droplets;
a drying chamber to dry the droplets to form particles; and
a collector to collect the particles.

Claim 46 (Cancelled):

Claim 47 (Previously added): The system of claim 45, wherein the constriction has a diameter less than 0.1 mm (0.005 in).

Claim 48 (Currently amended): The system of claim 45, wherein the atomizer further comprising comprises a third channel for a gas flow.

Claim 49 (Previously added): The system of claim 45, wherein the drying chamber has a gas inlet stream having an inlet temperature of at least 90°C.

Claim 50 (Previously added): The system of claim 45, wherein the drying chamber has a gas outlet stream having an outlet temperature of at least 50°C.

Claim 51 (Previously added): The system of claim 33, wherein the particles have a rugosity above 2.